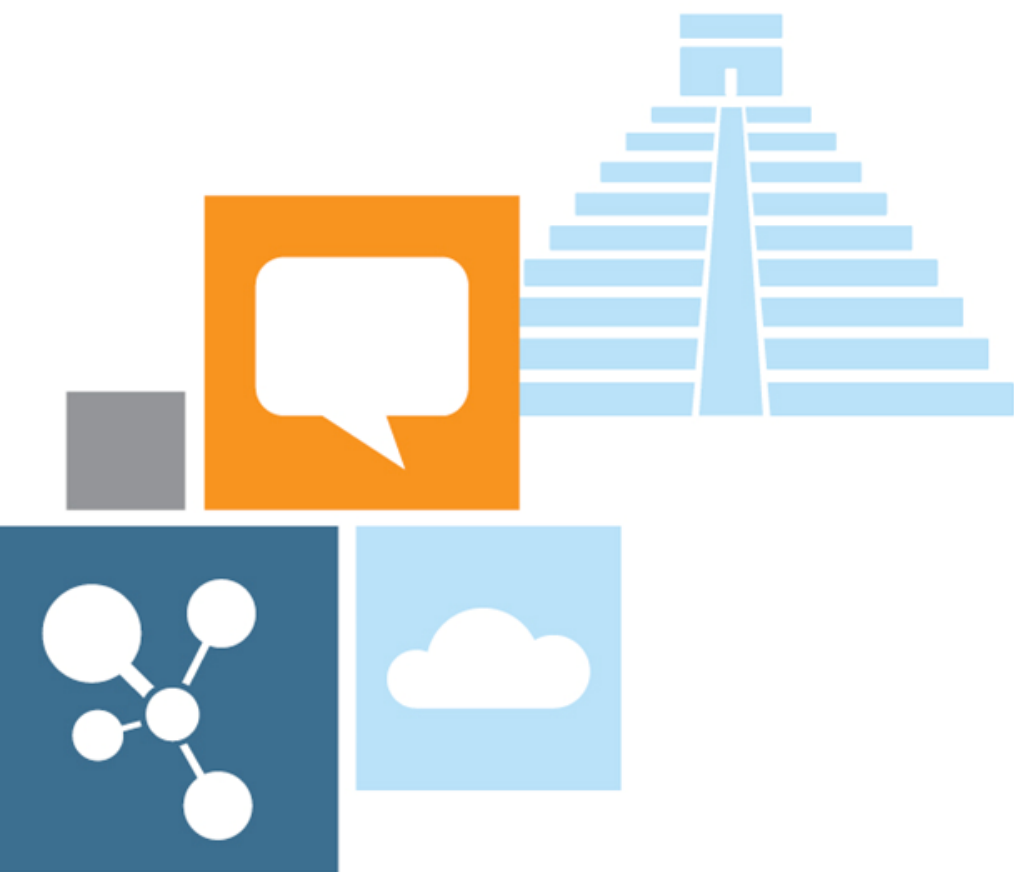


Microsoft



Microsoft® Research

Faculty Summit 2012

Riviera Maya, Mexico | May 23-25 | In partnership with CONACYT



Experiences in Software Engineering: Product Incubation Lessons

Derick Campbell
Director of Engineering, Microsoft Research Connections

May 24, 2012

This presentation is available online:
<http://docs.com/@derickc>



Christophe



Danny



Dean



Derick



Kal



Lori



Mike



Roman



Agenda

Intro

Me, You, Our Business

Lessons

1. Express Capacity Meticulously
2. Throw Away Good Projects
3. Add Drama
4. Mandate Business Reviews
5. Open Source Prematurely
6. Partner Fanatically
7. Be the Edge
8. Capitalize on Risk



Demos





Who Is This Guy?



Places of Work

Microsoft

Lucent Technologies

AT&T

Toronto Police Services

Crown Life Insurance

AdScan

The Unicorn Pub

The Bombshelter

Chuck E. Cheese

Variety of Roles

Software Engineering Management

Program Management

Product Marketing

Consulting Management, Consulting

IT Management

Software Development, IT Architecture

Helpdesk Technician

Data Entry Clerk

Bouncer

Pizza Chef, Pizza Delivery Guy

Software Consulting

Cartoon Rat

Father.

Canadian.

Geek.

Who This Talk Is For



Software Engineers
Software Managers
Students and Academics
Startup Businesses



Teams

Product Incubations
Software Startups
Software Labs
Prototyping Teams
Open Source Projects

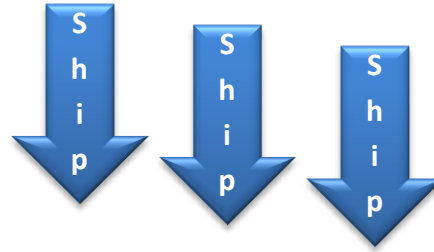
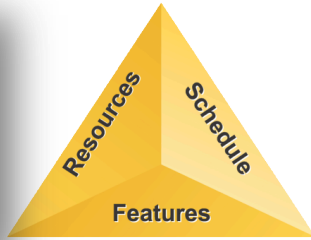


Team Qualities

Usually small
Future investments uncertain
Big breakthroughs expected
Projects may run in parallel
Competition for resources

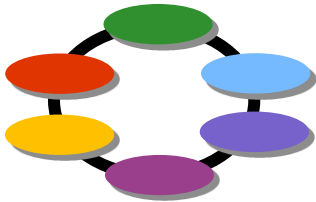
Our Engineering Business

Deep software experience



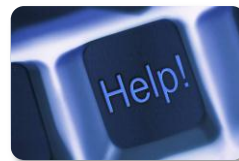
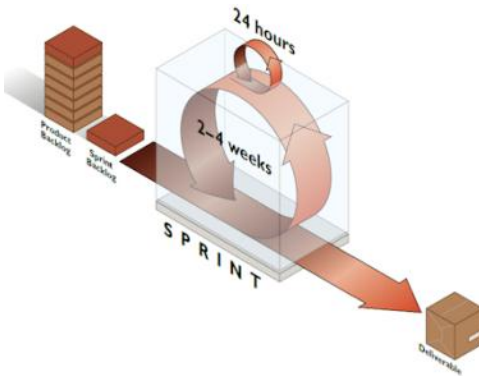
Enable the pursuit of scientific breakthroughs

Empowered teams of peers



Accelerate scientific exploration with computing

Agile process, some rules



Forum-Based Community Support

Inspire emerging computer and research scientists



Free Software Shipped: Highlights

Translator Hub

Layerscape

.NET Bio

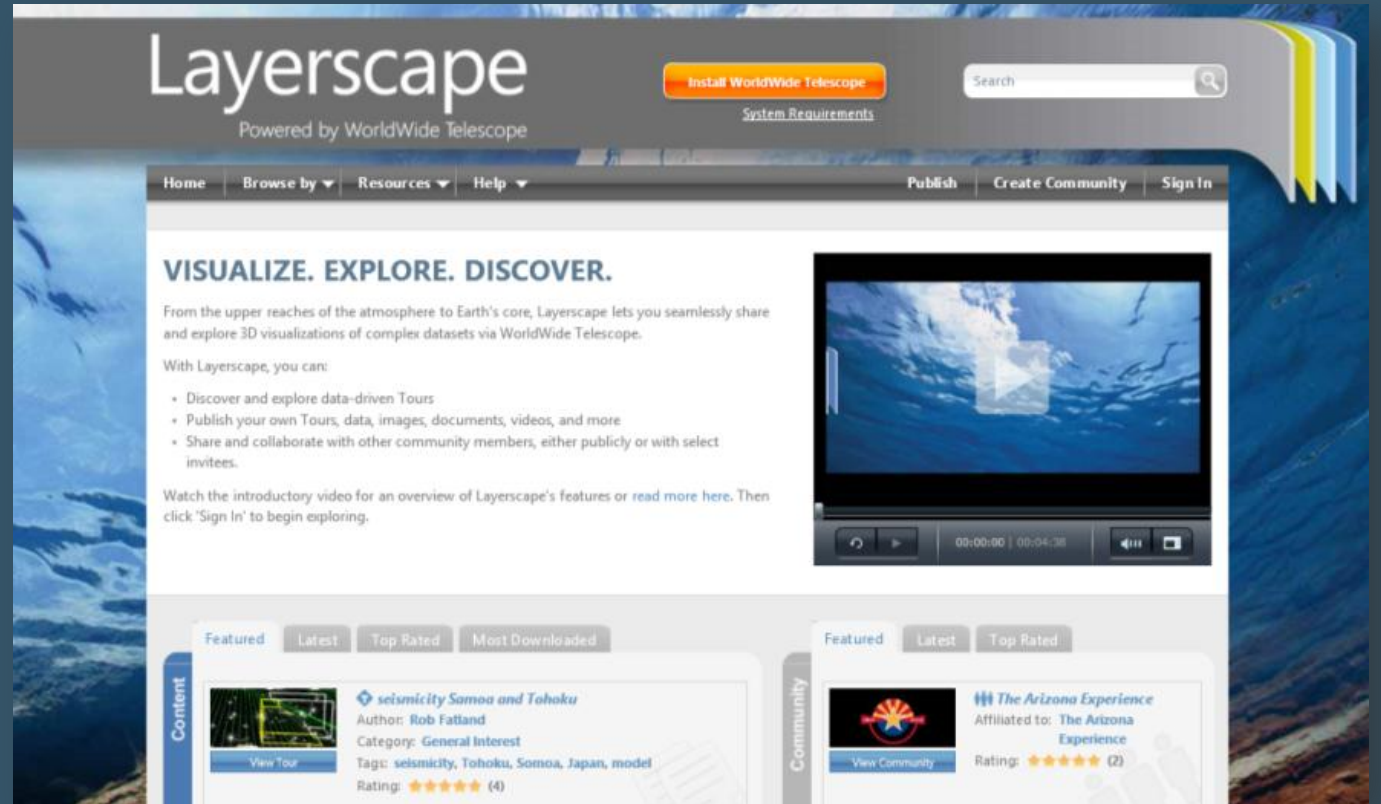
Try F#

Millions of unique visitors

Hundreds of thousands of downloads

Dozens of schools and classes

Layerscape demo





Incubation Lessons Learned

Express Capacity
Meticulously

Throw Away
Good Projects

Add Drama

Mandate Business
Reviews

Open Source
Prematurely

Partner
Fanatically

Be the Edge

Capitalize on
Risk





Express Capacity Meticulously

Be cautious about over-committing

How

Ideal scope.

Ideal duration.

Budget parameters.



Why

Expectations, risks.

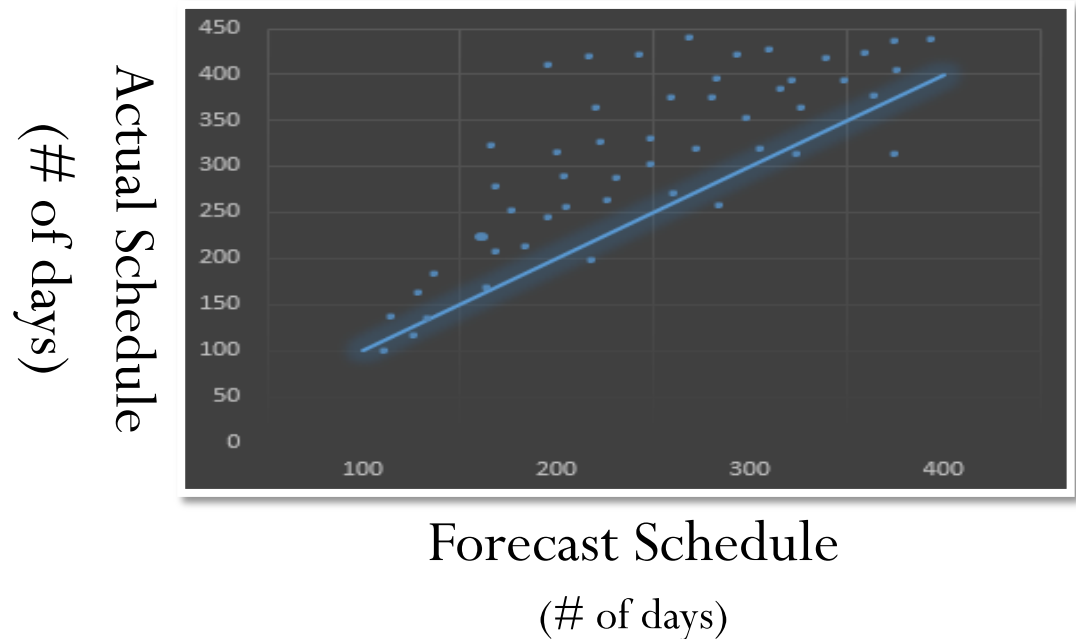
Leave room to aspire and amaze.

Focus!

Keep in Mind

Pressure to do more.

“Nobody ships early”.





Throw Away Good Projects

Keep the Great Ones

Selection

Ideas must be great!

(Of the best of available options)

A high bar sets the right tone.

Caution: high bars create anxiety and tension too!

Trust people to identify better projects over time.

Sacrifice

Be prepared to de-invest in legacy projects that are holding the team back.

Polish

Make something in each project shine.



Translator Hub demo

Microsoft
Translator Hub


[Log in using Windows Live ID](#)

Get started by requesting an invitation to build your translation system

[Request an invitation](#)

Where language meets the world

Bridging languages, cultures and technology



Microsoft Translator Hub is helping smaller languages thrive by putting the power to build machine translation systems in the hands of local communities.

- K. David Harrison,
National Geographic Fellow, author and linguist

ABOUT MICROSOFT TRANSLATOR HUB

Microsoft Translator Hub empowers businesses and communities to build, improve, and deploy customized automatic language translation systems—bringing better and specialized translation quality to established languages, as well as the many native languages of the world that are not yet supported by major translation providers.

Powered by Windows Azure, Microsoft Translator Hub is an extension of the Microsoft Translator platform and service. You can build a superior translation system easily, within a private website, by combining your translated documents with the power of Microsoft Translator's big data back end. Once you are satisfied with your translation, you may share it publicly on the web.


MORE INFORMATION

[Microsoft Translator Hub Overview](#)


[Microsoft Translator Hub Forum](#)

- 1 Set up Project
- 2 Add Data
- 3 Create Model
- 4 Go Live

VIDEOS



Get Started



Microsoft Translator Hub Case Study



Add Drama

Drive Action with a Compelling Story



"This software does 4,000 amazing things!"

That people will never remember,
and distract from the core message.

The Story Drives Action

Try the software.

Approve the project.

Provide funding!

Simplify The Story

Focus on primary audiences.

Make It Compelling

Audience validation.

Engineers On The Project

Are NOT the audience.



Mandate Business Reviews

More Value Than You First Expect

Benefits

- Team morale and alignment
- Forward progress and evolution
- Commitment, recommitment
- Visibility and understanding
- Better team preparation
- Expectations management
- Annual performance reviews
- Getting help!



Caution

- Remember who the decision makers are
- Schedule early to avoid conflicts
- Too many reviews can impede progress



Open Source Prematurely

Planning for an OSS Release is Critical



Why

Shifting to OSS late introduces risk and offers diminishing returns.

Shifting off OSS is far easier.

When

OSS is "Mission aligned".

Consider

Governance and increased costs.

Licensing

Remember: Developers are not lawyers!

IP Management



OUTERcurve
FOUNDATION

Try F# demo

[About](#) / [Tutorials](#) / [Tools & Resources](#) / [What Experts Say](#) / [Feedback](#)



F# is ideal for data-rich, concurrent and algorithmic development: "simple code to solve complex problems". F# is a simple and pragmatic programming language combining functional, object-oriented and scripting programming, and supports cross-platform environments including PC, Mac, and Linux.

We'll provide the tutorials, resources and tools you'll need to begin working with F# right away.

Begin Learning with F#

In just a few minutes you can begin learning F# - no registration, log-ins or forms are required. Once you hit "Begin", we'll download the F# compiler (browser edition) and you can start coding immediately.

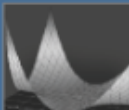
We'll also run a quick check of your system - if any additional tools or updates are required we'll provide the links.

[begin ▶](#)



About F#

See examples.
Review advantages.
Learn more.



“Say What?”

Read what the experts have to say about F#

Teaching F#?

Find the tools and resources to teach F# here.

Tell Me More...

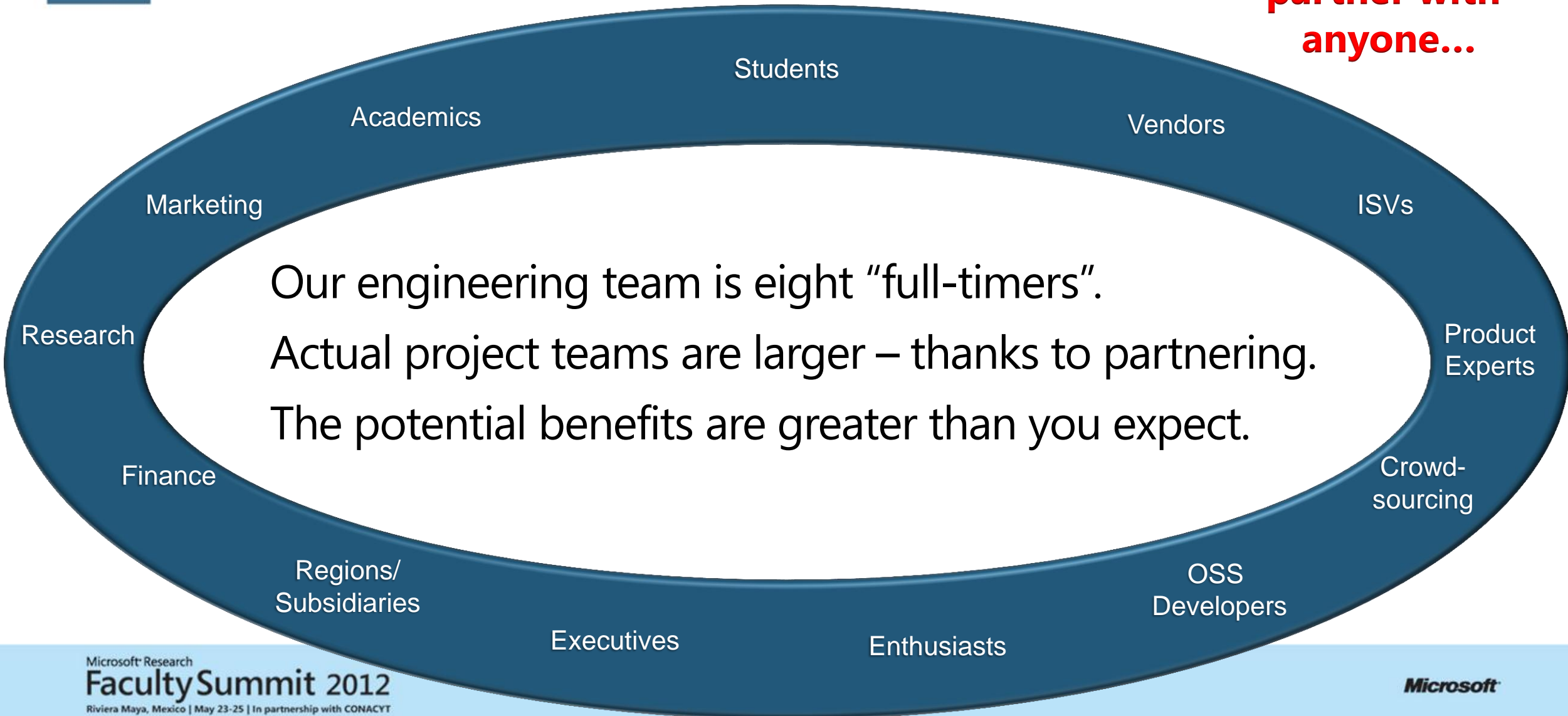
- ▶ Functional Programming
- ▶ F# Development Center
- ▶ Solve Puzzles - Pex4Fun



Partner Fanatically

$$1 + 1 > 2$$

**This does not
imply you
partner with
anyone...**





Be the Edge

Embrace and Push New Technologies

Challenge Boundaries

Don't just live on the edge: *define part of it*

Advance Your Art

Incubations are about learning and risk taking

(Poor) Reasons To Avoid New Technology:

It's too hard!

Tools aren't ready yet

Spec is changing

Missing skills

Never underestimate personal passion!





Capitalize on Risk

Manage It, Pursue It



Program Management

Overall risk management.
Risk-driven scheduling.

Development

Classify team by competencies.
Be strategic about who does what.

Test

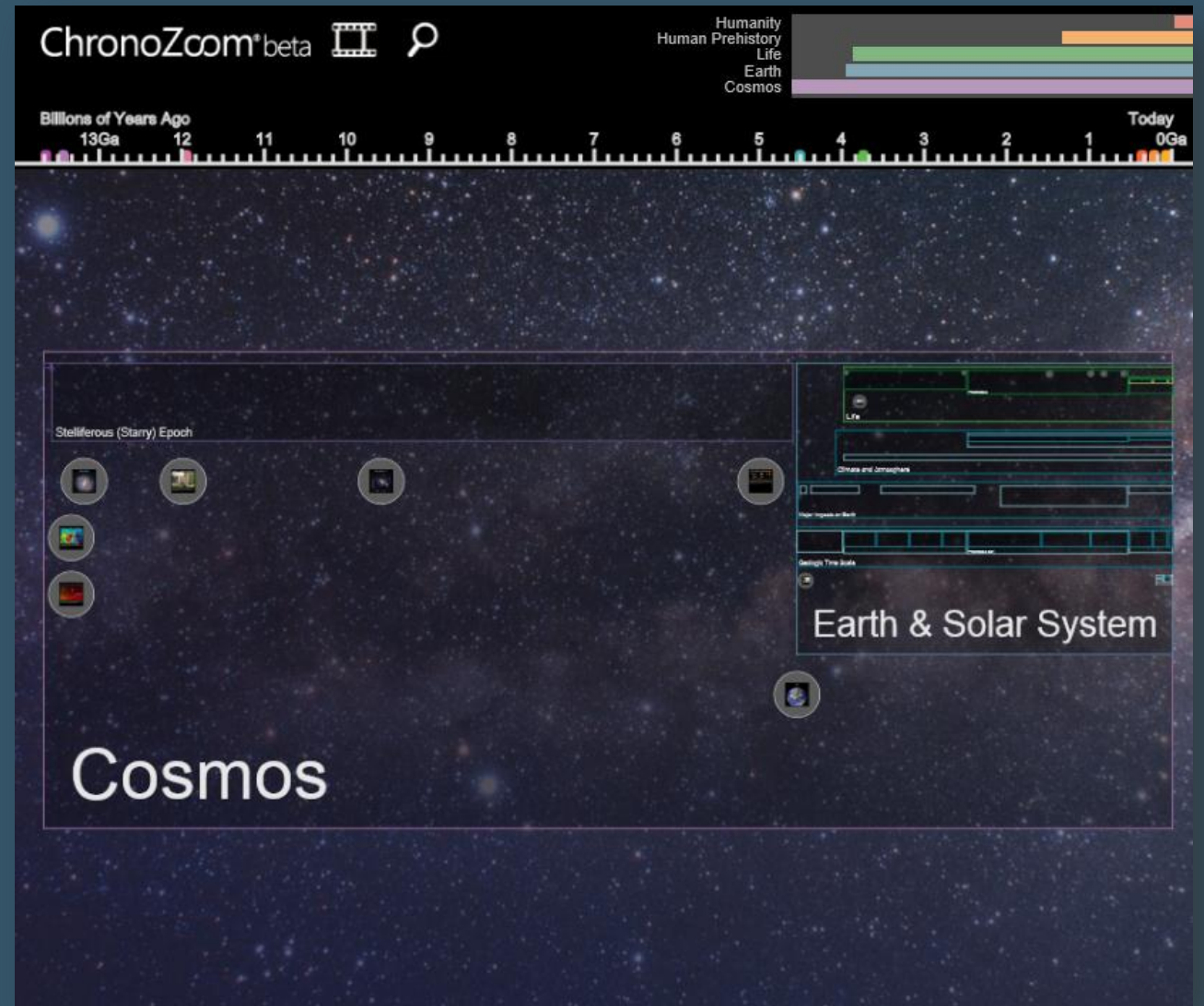
Business prioritized testing.
Platform multiplier strategies.

Culture

Embrace risk awareness!
Pursue riskier opportunities over time.



ChronoZoom demo





Recap

Incubation Lessons Learned



Express Capacity
Meticulously
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Microsoft®
Research